

CLAIMS

5 1. A method in direct conversion and intermediate frequency RF receivers having a signal with a desired signal portion and a distortion products portion, comprising:

determining a ratio of powers,

the ratio of powers is power of the signal distortion products divided by power of both the desired signal and the signal distortion products;

10 determining whether the ratio of powers exceeds a predetermined threshold;

filtering the signal distortion products with a filter having a non-zero bandwidth of rejection if the ratio of powers is above the predetermined threshold.

15 2. The method of Claim 1, filtering the signal distortion products with the filter having a bandwidth of rejection equal to zero if the ratio of powers is not above the predetermined threshold.

20 3. The method of Claim 1, dynamically adjusting the bandwidth of rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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4. The method of Claim 3, dynamically adjusting the bandwidth of rejection by selecting a bandwidth of rejection value from a look-up table for a particular power for both the desired signal and the signal distortion products.

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5. The method of Claim 3, dynamically adjusting the predetermined threshold as a function of the power for both the desired signal and the signal distortion products.

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6. The method of Claim 1, dynamically adjusting the predetermined threshold as a function of the power for both the desired signal and the signal distortion products.

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7. The method of Claim 1, the signal distortion products include narrowband intermodulation distortion products, determining power for the signal distortion products by determining power for the narrowband intermodulation distortion products.

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8. The method of Claim 7, dynamically adjusting the bandwidth of rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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9. The method of Claim 1, dynamically adjusting rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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10. A method in direct conversion and intermediate frequency RF receivers, comprising:

determining power for a desired signal;

determining power for signal distortion products;

filtering the signal distortion products with a filter;

dynamically adjusting a bandwidth of rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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11. The method of Claim 10, dynamically adjusting the bandwidth of rejection by selecting a bandwidth of rejection value from a look-up table for a particular power for both the desired signal and the signal distortion products.

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12. The method of Claim 10,

determining whether a ratio of powers exceeds a predetermined threshold, the ratio of powers is the power for the signal distortion products divided by the power for both the desired signal and the signal distortion products;

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setting the bandwidth of rejection equal to zero if the ratio of powers does not exceed the predetermined threshold.

13. The method of Claim 12, dynamically adjusting the predetermined threshold as a function of the power for both the desired signal and the signal distortion products.

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14. The method of Claim 10, the signal distortion products include narrowband intermodulation distortion products, determining power for the signal distortion products by determining power for the narrowband intermodulation distortion products.

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15. The method of Claim 10, dynamically adjusting rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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16. A method in direct conversion and intermediate frequency RF receivers, comprising:

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determining power for signal distortion products;

determining power for a desired signal;

filtering the signal distortion products with a filter;

dynamically adjusting a rejection of the filter as a function of the power for both the desired signal and the signal distortion products.

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17. The method of Claim 15,

determining whether a ratio of powers exceeds a predetermined threshold, the ratio of powers is the power for the signal distortion products divided by the power for both the desired signal and the signal distortion products;

5 setting the rejection of the filter equal to zero if the ratio of powers does not exceed the predetermined threshold

18. The method of Claim 17, dynamically adjusting the predetermined threshold as a function of the power for both the desired signal portion and the signal distortion products.

19. The method of Claim 15, the signal distortion products include narrowband intermodulation distortion products, determining power for the signal distortion products by determining power for the narrowband intermodulation distortion products.

20. A method in radio communications devices having a receiver receiving a wideband signal in the presence of narrowband blockers, comprising:

 determining power for narrowband intermodulation distortion products;

 determining power for a desired signal;

25 filtering the desired signal and distortion products;

dynamically adjusting at least one of a bandwidth of rejection and rejection of the filter as a function of the power for both the desired signal and the narrowband intermodulation distortion products.

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21. The method of Claim 20,
determining whether a ratio of powers exceeds a predetermined threshold,

the ratio of powers is the power for the narrowband intermodulation distortion products portion divided by the power for both the narrowband intermodulation distortion products and the desired signal;

setting the at least one of the bandwidth of rejection and the rejection of the filter to a non-zero value if the ratio of powers is above the predetermined threshold.

22. The method of Claim 21, setting the at least one of the bandwidth of rejection and the rejection of the filter to zero if the ratio of powers is not above the predetermined threshold.

23. The method of Claim 21, dynamically adjusting the predetermined threshold as a function of the power for both the desired signal portion and the signal distortion products.

24. A method an RF receiver, comprising:

determining power for a signal distortion product;
determining power for a desired signal;
filtering the signal distortion product and the desired signal with a
filter;

5 dynamically adjusting a filter rejection property as a function of the
power for both the desired signal and the signal distortion products.

25. The method of Claim 24,
10 determining whether a ratio of powers exceeds a predetermined
threshold, the ratio of powers is the power for the signal distortion products
divided by the power for both the desired signal and the signal distortion
products;
15 dynamically adjusting a filter rejection property only if the ratio of
powers is above the predetermined threshold

20 26. The method of Claim 25, dynamically adjusting the
predetermined threshold as a function of the power for both the desired signal
portion and the signal distortion products.

25 27. The method of Claim 24, the signal distortion products include
narrowband intermodulation distortion products, determining power for the
signal distortion products by determining power for the narrowband
intermodulation distortion products.